

MASTER
COLLECTION

PHILIPS

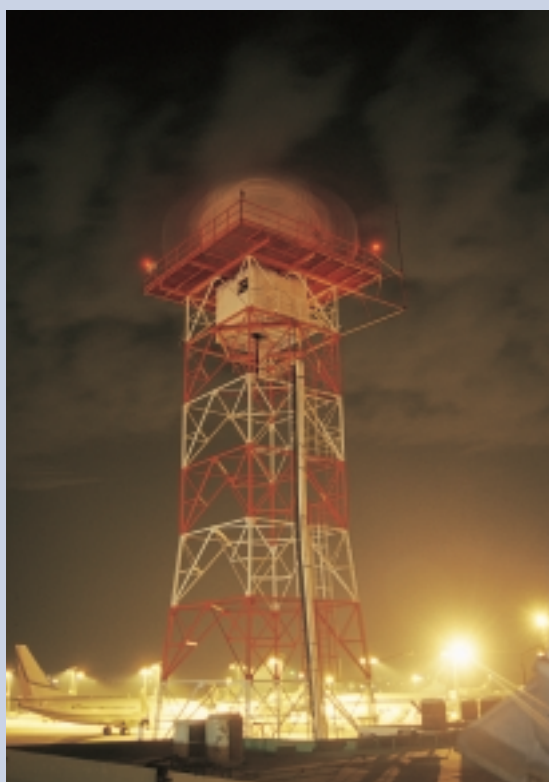


ObstiVision

maintenance free LED obstacle light



lighting solutions that really last



The MASTER Collection – Lighting solutions that make business sense.

Offering best in class energy efficiency, lifetime reliability and lighting quality, Philips MASTER Collection lamps, luminaires and control gears minimise your lighting solution's total cost of ownership. You can start enjoying significant savings and benefits from day one by replacing your conventional lighting products with Philips MASTER Collection upgrades. You can achieve even more dramatic savings and improvements by switching your whole lighting system to the Philips MASTER Collection.

obstruction lighting system

Obstacle light to mark the presence of tall structures that may present hazards to air navigation at night time is a legal requirement. The lighting system must be designed to meet International Civil Aviation Organisation (ICAO) standards for product specification and placement.

Traditionally obstacle light has used incandescent technology. The short lifetime of the incandescent lamps of approximately 1,000 hours and their susceptibility to failure caused by vibration required that the fitting have two lamps. This ensured that in the event of one failure the other lamp could take over. This system required constant and frequent lamp changing, costly maintenance, and was high in energy consumption.

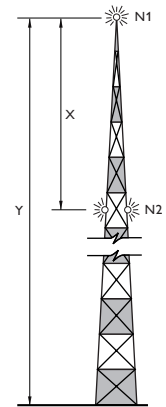
Now, the benefits of the latest in Light Emitting Diode (LED) technology can provide a far superior solution. By taking advantage of its long lifetime of approximately 100,000 hours, low power consumption, and resistance to shock and vibration of LEDs, the Philips ObstiVision provides an ideal, maintenance free solution to obstruction lighting system.

The standards and requirements of obstacle light

Obstruction lighting systems must meet the requirements of the ICAO International Civil Aviation Organisation Standards and Recommended Practices: Aerodromes- Annex 14- Volume 1, 3rd Edition, July 1999, Chapter 6.



Location of obstacle lights



$$\text{Number of lights} = N = \frac{Y \text{ (metres)}}{45}$$

$$\text{Light spacing} = X = \frac{Y}{N} \leq 45 \text{ m}$$

The key points that must be adhered to are

- To reduce the hazards to the aircraft, obstacles above the horizontal surface should be lighted to indicate the presence of the obstacles
- The light must be fixed, and red in colour
- Minimum peak intensity at background luminance of up to 500cd/m²: 10cd for low intensity type A and 32cd for low intensity type B
- Vertical beam spread of not less than 10 degrees
- Minimum intensity (cd) at given elevation angles when the light is levelled: +6 degrees: 10cd for low intensity type A and 32cd for low intensity type B
- Minimum intensity (cd) at given elevation angles when the light is levelled: +10 degrees: 10cd for low intensity type A and 32cd for low intensity type B
- In addition to specified values, lights shall have sufficient intensity to ensure conspicuity at elevation angles between +/- 0 degrees and 50 degrees

ObstiVision in practice

ObstiVision is a dedicated maintenance-free obstacle light for aviation warning purposes. Light emitting diode (LED) technology is chosen to be the light source of this product. ObstiVision is suitable to be used as a Low Intensity, Type A and Type B obstacle lights according to ICAO standard. Typical applications for ObstiVision would include telecommunication towers, tall buildings, airport areas and power transmission towers.

The guidelines for the type and location of obstacle lights are contained within the ICAO standard as described.



The benefits of LED technology

LEDs are a time tested solid state technology that emits a single colour of light when an electric current is applied. They are revolutionising the lighting world. Numerous benefits of this technology include extreme long life, reliability and exceptional energy efficiency. Compared to a standard incandescent solution the benefits in energy consumption and maintenance of using the ObstiVision LED solution are clear:

Benefit Comparison	Typical Incandescent type	Philips ObstiVision <i>low intensity type A</i>
Lamp	Incandescent or special incandescent	High intensity light emitting diode (LED)
Power consumption per luminaire (for Type A)	100w (200W twin type)	Max 7W
Lamp average life (hours)	4000 hours (50% burnt out)	100,000 hours
Lamp life warranty	Not available	5 years
ICAO standard met	Yes	Yes
IP protection against dust and water	Typically IP55	IP65 (dust tight and jet proof)
Operating voltage	220-240Vac 50 Hz	210-250Vac constant light output or 24Vdc/48Vdc
Weight	5.0-7.5 kg	<1.0 kg
Wind load at 200 km/h	Higher than 40N	Less than 40N
Operating temperature	-55 to +55 degrees Celsius	-40 to +70 degrees Celsius
Light Intensity (ICAO low intensity type A)	>10 cd for Type A, >32 cd for Type B	>10 cd for Type A, >32 cd for Type B
Colour	Aviation Red (ICAO)	Aviation Red (ICAO)
Vibration resistance	Susceptible to failure due to shock and vibration	Resistant to shock and vibration
Supply voltage affect on light output	Intensity varies with voltage fluctuation	Stable with constant current generator (210-250V)

Save time, money and hassle with ObstiVision

The efficiency, reliability and freedom from maintenance that characterise ObstiVision will save you money over time! Considering the cost of ownership, *you can have your payback period as short as 1 year* by using ObstiVision as compared to the conventional obstruction lighting system.

product details

Technical descriptions

Mechanical

- Yellow powder painted high pressure die-cast aluminium housing
- UV-protected clear glass cover – 5mm thick
- Stainless steel plate to support LED unit
- Operating temperature = - 40°C to +70°C
- IP65
- Wind load at 200 km/hr of less than 40 Newton force
- Threaded base for 1 inch in diameter size of pipe (other size can be applied with the reducer or enlarger)

Electrical

- Standard type using nominal operating voltage of 48Vdc or 220-240Vac; 24 Vdc systems are available upon request
- Terminal block for 2 x 1.5mm² cables
- Power consumption: 5W for 48Vdc Type A version, 7W for 220-240Vac Type A version and 12W for 48Vdc Type B version
- Constant current 100mA for Type A, 250mA for Type B
- Surge protection device integrated: according to Institute of Electrical and Electronics Engineers (IEEE) requirement

Optical

- Luminous intensity of greater than 10 cd for low intensity type A obstacle light and greater than 32 cd for low intensity type B obstacle light
- Horizontal radiation coverage 360°
- Vertical radiation coverage 50°
- Color: aviation red, choice of fixed or flashed light

Installation

- Pipe installation: the standard luminaire comes with threaded base – ready to be installed with threaded pipe of 1 inch in diameter (other size of pipe – use standard reducer or enlarger)
- To attach ObstiVision with existing antenna / pipe or wall-mounted installation, the mounting kit is required.

Accessories

- Control box *
- Photo switch and sensor
- Mounting accessories *
- 3-way and 4-way junction box for through-wiring
- Solar cell

Product compliances

- Product compliance with International Civil Aviation Organization (ICAO) standards and recommended practices – Aerodromes Annex 14 Volume 1, 3rd edition – July 1999, Chapter 6.
- Federal Aviation Administration (FAA) standard

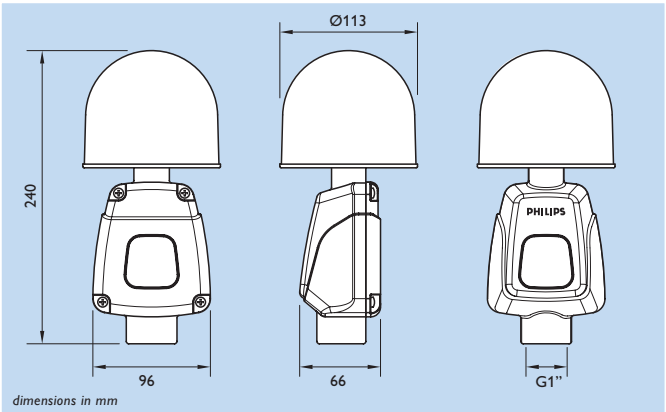
* please check with your local Philips agent for details

Specifications subject to modification

**All intellectual property rights reserved,
Koninklijke Philips Electronics N.V.**



Dimensional Sketches



Ordering Data

Product Code	Description	Ordering Number
XGP388 48Vdc A	ObstiVision 48Vdc Type A	9199 186 76132
XGP388 220-240Vac 50-60Hz A/AF	ObstiVision 220-240Vac 50-60Hz Type A (flasher selector is integrated)	9199 186 77132
XGP388 48Vdc B	ObstiVision 48Vdc Type B	9199 186 76532
ZGB388 220-240Vac 50-60Hz / 48Vdc L P	Control Box 220-240Vac 50-60Hz input 48Vdc output with photo switch	9199 186 72732
ZBG388 220-240Vac 50-60Hz / 48Vdc L T	ontrol Box 220-240Vac 50-60Hz input 48Vdc output with timer	9199 186 72232
ZGP388 TW3	3-way throughwiring junction box	9199 186 71032
ZGP388 TW4	4-way throughwiring junction box	9199 186 71132
ZPP388	Mounting Kit - pipe installation	9199 186 70032
ZVB388	Mounting Kit - building top installation	9199 186 70132
ZVWB388	Mounting Kit - wall mounted installation	9199 186 70232
ZGL388 P	Photo sensor	9199 186 70332



**Hong Kong – Philips Electronics
Hong Kong Ltd.**
Lighting Asia Pacific Headquarters
27th Floor, Hopewell Centre
17 Kennedy Road, Wanchai, Hong Kong
Tel: + 852 2821 5300
Fax: + 852 2821 5342
E-mail: ltinfo.hongkong@philips.com

Australia – Philips Lighting
Level 1, Philips House
65 Epping Road, North Ryde
NSW 2113, Sydney, Australia
Tel: + 61 2 9947 0000 or
1300 304 404 (toll free-local only)
Fax: + 61 2 9947 0325
E-mail: ltinfo.australia@philips.com

China – Philips Lighting
No. 1805 Hu Yi Road, Malu Town
Jiading District, Shanghai, 201801, P.R.China
Tel: + 86 21 5915 4060
Fax: + 86 21 5915 4064
E-mail: ltinfo.china@philips.com

India – Philips Lighting
Lighting Division
Motorola Excellence Centre, 5th Floor
415/2 Mehrauli-Gurgaon Road
Sector -14, Haryana-122001, India
Tel: + 91 124 509 1900
Fax: + 91 124 509 1912
E-mail: ltinfo.india@philips.com

Indonesia – Philips Lighting
Gedung Philips
J1. Buncit Raya Kav. 99-100
Jakarta 12510, Indonesia
Tel: + 62 31 8491 674 or
0800 10 52678 (hotline-local only)
Fax: + 62 31 8473 240
E-mail: ltinfo.indonesia@philips.com

Japan – Philips Lighting
Philips Building
13-37, Kohnan 2-chome
Minato-ku, Tokyo 108-8507, Japan
Tel: + 81 3 3740 5156
Fax: + 81 3 3740 5163
E-mail: ltinfo.japan@philips.com

Korea – Philips Lighting
260-199 Itaewon-dong
Yongsan-ku, Seoul 140-200, Korea
Tel: + 82 2 709 1312
Fax: + 82 2 709 1350
E-mail: ltinfo.korea@philips.com

Malaysia – Philips Lighting
76, Jalan Universiti
46200 Petaling Jaya
Selangor Darul Ehsan, Malaysia
Tel: + 60 3 7957 5511
Fax: + 60 3 7955 2739
E-mail: ltinfo.malaysia@philips.com

New Zealand – Philips Lighting
2 Wagener Place, Mt Albert
PO Box 1041, Auckland, New Zealand
Tel: + 64 9 815 4000 or
0800 454 448 (toll free-local only)
Fax: + 64 9 849 7812 or
0800 160 875 (toll free-local only)
E-mail: ltinfo.newzealand@philips.com

Pakistan – Philips Lighting
F-54, S.I.T.E.
Karachi-75730, Pakistan
Tel: + 92 21 256 0071
Fax: + 92 21 257 8920
E-mail: ltinfo.pakistan_2@philips.com

Philippines – Philips Lighting
Philips House
106 Valero St. Salcedo Village
1227 Makati City, Philippines
Tel: + 63 2 845 7840
Fax: + 63 2 816 6340
E-mail: ltinfo.philippines@philips.com

Singapore – Philips Lighting
620A Lorong 1 Toa Payoh
Singapore 319762, Singapore
Tel: + 65 6882 3530
Fax: + 65 6253 2343
E-mail: ltinfo.singapore@philips.com

Taiwan – Philips Lighting
25B, No.66, Chung Hsiao W. Road
Sec. 1, Taipei, Taiwan
Tel: + 886 2 2382 7666 or
0800 231 099 (toll free-local only)
Fax: + 886 2 2382 4422
E-mail: ltinfo.taiwan@philips.com

Thailand – Philips Lighting
515 Moo 4, Pattana 3 Road
Bangpoo Industrial Estate, Soi 8B
Preaksa, Samutprakarn 10280, Thailand
Tel: + 66 2 709 3300
Fax: + 66 2 740 4960-1
E-mail: ltinfo.thailand@philips.com

Vietnam – Philips Lighting
99-101 Ham Nghi Street
Ward: Nguyen Thai Binh
District 1, Ho Chi Minh City, Vietnam
Tel: + 84 8 914 2248 Ex.304
Fax: + 84 8 914 2249
E-mail: ltinfo.vietnam@philips.com

32 2 B21 3 001-01

www.lighting.philips.com/apr